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**TECHSPEC® 12mm, f/4 Cw Series Fixed Focal Length Lens**



12mm Focal Length



Stock #15-633 **20+ In Stock**

⊖ 1 ⊕ C\$641<sup>20</sup>

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**General**

Cw Series **Product Family:**

C-Mount compatible with O-ring 25mm ID x 2mm **Note:**

Fixed Focal Length Lens **Type:**

**Physical & Mechanical Properties**

Fixed Iris Option:

38.10 Length (mm):

36 Outer Diameter (mm):

0.6 Maximum Rear Protrusion (mm):

## Optical Properties

Field of View at Max Sensor Format:  
Horizontal: 41.0°  
Vertical: 31.3°  
Diagonal: 50.5°

41.0° Horizontal Field of View, 2/3" Sensor:

33.8° Horizontal Field of View, 1/1.8" Sensor:

30.2° Horizontal Field of View, 1/2" Sensor:

27.4° Horizontal Field of View, 1/2.5" Sensor:

22.8° Horizontal Field of View, 1/3" Sensor:

17.1° Horizontal Field of View, 1/4" Sensor:

11.00 Maximum Image Circle (mm):

0.0118 Numerical Aperture NA, Object Side:

7 (7) Number of Elements (Groups):

12.00 Focal Length FL (mm):

100 - ∞ Working Distance (mm):

f/4 Aperture (f/#):

425 - 675nm BBAR Coating Specification:

17.6208 Entrance Pupil Position (mm):

23.93 Object Space Principal Plane (mm):

1.98 Image Space Principal Plane (mm):

2.11 Maximum Distortion (%):

-11.3801 Exit Pupil Position (mm):

VIS Lens Wavelength Range:

## Sensor

2/3" Maximum Sensor Format:

2.74 Pixel Size (µm):

## Threading & Mounting

M30.5 x 0.50 (Female) Filter Thread:

C-Mount Mount:

## Environmental & Durability Factors

IPX7 and IPX9K Environmental Rating:

-20 to +60 Storage Temperature (°C):

Waterproof (IPX7 and IPX9K) Type of Ruggedization:

## Regulatory Compliance

## Product Details

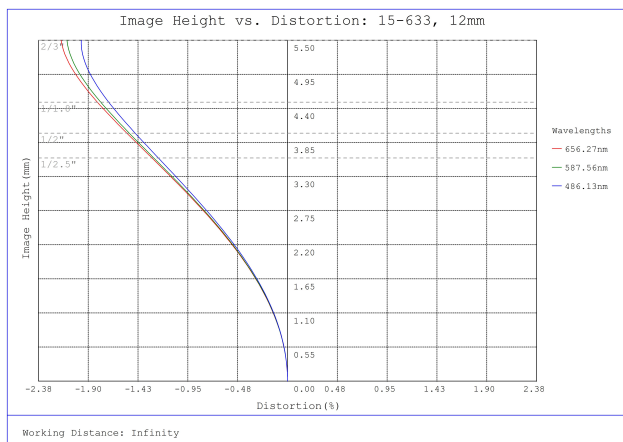
- Up to 2/3", C-Mount Lens
- Waterproof (Cw) Versions of C Series Fixed Focal Length Lenses
- Meets IEC Ingress Protection Ratings of IPX7 and IPX9K
- Designed to Eliminate the Need for a Protective Lens Cover

TECHSPEC® Cw Series Fixed Focal Length Lenses are waterproof versions of our [TECHSPEC® C Series Fixed Focal Length Lenses](#). Designed to meet IEC Ingress Protection Codes IPX7 and IPX9K, these lenses withstand exposure to water up to 1 meter depth for 30 minutes and operate in close-range high pressure, high temperature water spray downs with the exception of all 3.5 and 4.5mm options which are IPX7. These lenses include a hydrophobic coated window to prevent water droplets from settling on the lens' surface. To prevent moisture from entering the housing, the lenses are sealed with multiple O-rings. TECHSPEC® Cw Series Fixed Focal Length Lenses are designed for up to 7.5 MegaPixel, 2/3" sensors and are ideal for applications including food, pharma, automotive, and security. These lenses won the Bronze-Level 2021 Vision Systems Design Innovators Award.

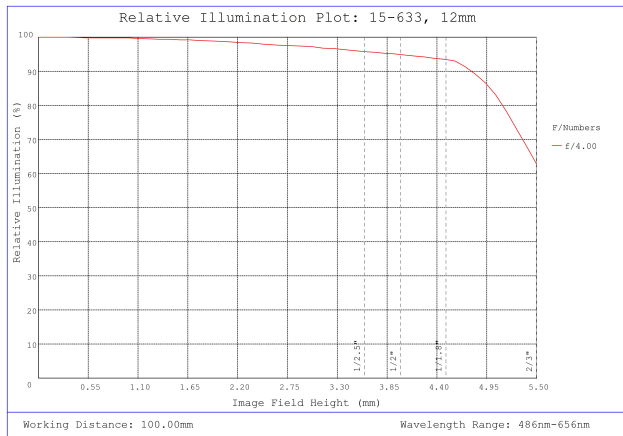
Edmund Optics has created a family of high performance optical designs (the C Series family) and developed 6 customized optomechanical solutions targeted for specific applications. These lens sub-families utilize the same optics as the C Series lenses providing the same optical performance in a variety of optomechanical solutions to meet your application requirements:

- **C Series:** Features locking cam focus and iris adjustment and is the most adjustable version of these optical designs; they are the typical high quality machine vision lenses. Also available with a [VIS-NIR Broadband Anti-Reflection \(BBAR\) Coating](#).
- **Ci Series:** Simplified mechanics featuring fixed apertures with compact housing. [Industrial Ruggedization](#) for reduced size, cost, and locked focus.
- **Cr Series:** All optics glued in place and a locking C-clamp focus ring. [Stabilized Ruggedization](#) for reduced pixel shift and improved focus stability.
- **Cx Series:** Modular, flexible mechanics allows lenses to be taken apart for easy integration of accessories such as liquid lenses, apertures, and more.
- **Liquid Lens Cx Series:** Designed with an integrated liquid lens for quick autofocus.
- **Cw Series:** Waterproof, designed to meet IEC [Ingress Protection](#) Code IPX7 and IPX9K.

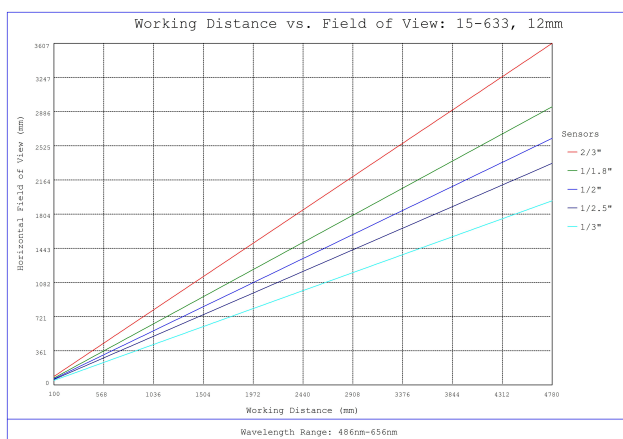
## Technical Information



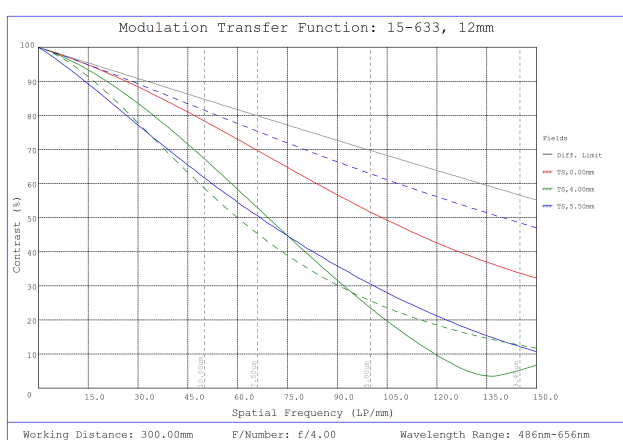
#15-633, 12mm, f/4 Cw Series Fixed Focal Length Lens, Distortion Plot



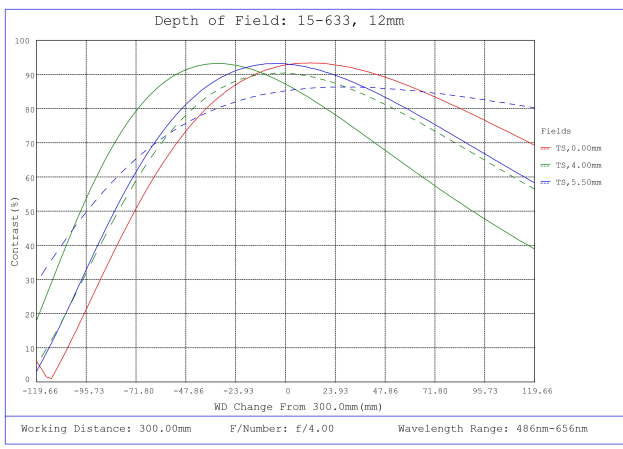
#15-633, 12mm, f/4 Cw Series Fixed Focal Length Lens, Relative Illumination Plot



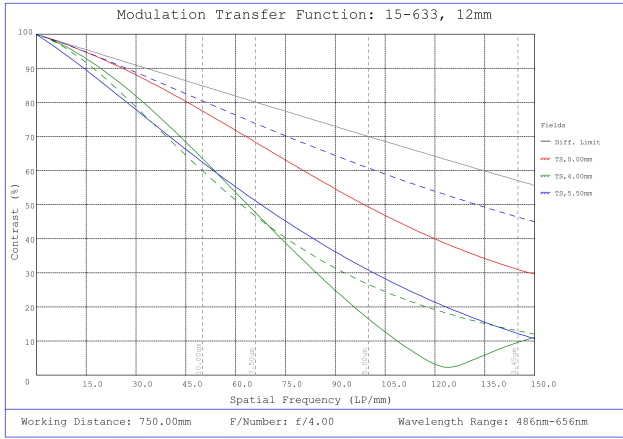
#15-633, 12mm, f/4 Cw Series Fixed Focal Length Lens, Working Distance versus Field of View Plot



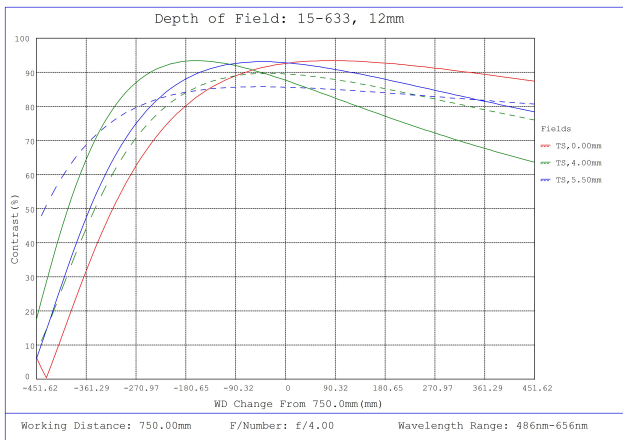
#15-633, 12mm, f/4 Cw Series Fixed Focal Length Lens, Modulated Transfer Function (MTF) Plot, 300mm Working Distance, f4



#15-633, 12mm, f/4 Cw Series Fixed Focal Length Lens, Depth of Field Plot, 300mm Working Distance, f4



#15-633, 12mm, f/4 Cw Series Fixed Focal Length Lens, Modulated Transfer Function (MTF) Plot, 750mm Working Distance, f4



#15-633, 12mm, f/4 Cw Series Fixed Focal Length Lens, Depth of Field Plot, 750mm Working Distance, f4